

REMARKS

Claims 1-27 are pending in the present application. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested.

Applicant notes with appreciation the indication that claims 5, 9, 10, 11, 13, 23-25 and 27 were objected to and indicated to be allowable if rewritten in independent form. Applicant has rewritten claims 11 and 25 in independent form.

Claims 1-4, 6-8, 12, 14-22 and 26 were rejected under 35 U.S.C. § 103 as being unpatentable over Satake et al. (U.S. Patent No. 5,245,188) in view of Gray et al. (U.S. Patent No. 5,641,596). This rejection is respectfully traversed for the following reasons.

Claim 1 recites a method for recording images of small particles, such as grains from cereals and like crops, to analyze the quality of the particles, especially to detect any cracking in the particles. The method includes the steps of feeding particle samples which each comprise at least one particle, to a place for recording an image, illuminating a particle sample from at least two directions simultaneously, the illumination occurring with a different light wavelength for each direction, recording an image of the illuminated particle sample with the aid of an image-recording means, which records partial images of the particle sample in different channels, which are sensitive to different wavelengths, and comparing the different partial images for analysis of the particle sample, each partial image showing the particle sample illuminated from one direction by the channel recording

only one of the different light wavelengths. This is not taught, disclosed, or made obvious by the prior art of record.

The Examiner asserts that the Satake et al. patent discloses the claimed invention recited claim 1 except that it does not disclose "image of particle in different channels", that is, that it does not disclose that partial images of the particle sample are recorded in different channels. However, Applicant respectfully submits that Satake et al. does not disclose recording of any images at all.

According to Satake et al., changes in waveforms detected by a reflected light measuring unit and a transmitted light measuring unit are used to determine the characteristics of grain (see column 3, lines 27-37). The only means of detecting this waveform change, in the three embodiments described in Satake et al., is a light amount sensing means 120 (column 5, lines 53-55; column 8, lines 57-59; column 9, lines 46-48). This operates to generate the intensity profiles which are depicted in Figures 5 and 6 and which are employed by Satake et al. to characterize the grain (column 7, lines 16-66). Thus, Satake et al. merely discloses one-dimensional intensity profiles being recorded and, hence, no images are recorded.

Further, according to the Examiner, Gray et al. is in the same field of grains evaluation and teaches that images of a particle are, recorded in different channels. This is plain wrong. Firstly, Gray et al. is not in the same field of grains evaluation. Whereas the invention is directed to recording images of particles, such as grains from cereals and like crops, Gray et al. is directed to the adjusting of properties of a film for acquiring images. Such a film has a grain pattern arranged to detect an image. Thus, Gray et al. is directed to determining and adjusting

properties of an image-acquiring means (film) and not to the evaluation of grains from cereals and like crops. This is a significantly different technical field.

Therefore, the skilled person starting in Satake et al. would never turn to Gray et al.. However, even if he somehow would happen upon Gray et al., he would not arrive at the invention by combining Satake et al. with Gray et al.

Gray et al. discloses a method for determining the properties of a film and therefore including the properties of the film grain. These determined properties then provide information of the sensitivity of different channels, since different grain are sensitive to different colors and thus provide different channels. However, the sensitivity is based on the density of grain on the film not on the individual properties of each grain (column 2, lines 22-39). Thus, the property of each individual grain is not determined. Further, the determination of the grain property provides information of the sensitivity in different channels, but is not made by recording images in different channels. The properties of grain in a specific channel are determined by determining statistics in a test image from the specific color channel only (column 2, lines 40-55). Thus, even if the skilled person, contrary to expectation, would combine Satake et al. with Gray et al., he would not be taught that an image of a particle may be recorded in different channels and, therefore, he would not arrive at the invention.

For at least these reasons, Applicant respectfully submits claim 1 is patentable over the prior art of record whether taken alone or in combination as proposed in the Office Action.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record.

Appln. No. 09/757,696
Amd. dated May 5, 2004
Reply to Office Action of February 25, 2004

Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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